Date: Thu, 11 Mar 93 09:11:41 PST
From: Info-Hams Mailing List and Newsgroup <info-hams@ucsd.edu>
Errors-To: Info-Hams-Errors@UCSD.Edu
Reply-To: Info-Hams@UCSD.Edu
Precedence: Bulk
Subject: Info-Hams Digest V93 #304
To: Info-Hams

Info-Hams Digest Thu, 11 Mar 93 Volume 93 : Issue 304

Today's Topics:

Send Replies or notes for publication to: <Info-Hams@UCSD.Edu>
Send subscription requests to: <Info-Hams-REQUEST@UCSD.Edu>
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Info-Hams Digest are available
(by FTP only) from UCSD.Edu in directory "mailarchives/info-hams".

We trust that readers are intelligent enough to realize that all text
herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.

Date: Thu, 11 Mar 1993 10:45:33 GMT
From: usc!sdd.hp.com!apollo.hp.com!hpwin052!hpqmoea!dstock@network.UCSD.EDU
Subject: A pair of coax <-> ladder line ???
To: info-hams@ucsd.edu

    It can be illuminating to look at antenna tuners and feeders in very
general terms.

Someone already said that on HF, dielectric losses are usually not significant, so it is the effective RF resistance of conductors times the square of the current flowing that gives the lost power. If I have a good antenna that looks like 50 ohms, purely resistive, and I know my TX power, it is easy to calculate the current flowing, and the losses will be proportional to this current squared.

Now if I build an antenna which is off resonance at the frequency I'm using, and use an ATU to drive it, the ATU is presenting a reactive impedance to the antenna such that the antenna, ATU and the feeder between them are TOGETHER resonant at the frequency in use. The current in the feeder is now larger due to the addition of a resonant component. This resonant part of the current can be much larger than the current needed to feed the antenna that was resonant itself. Losses being proportional to current squared means that the use of an ATU and off-tune antenna gives feed line losses that increase dramatically the further the antenna is from the ideal 50 ohms (I'm just using 50 Ohms as a typical example of transmitter load requirement and feeder impedance)

With an ATU matching an off-tune antenna, any reduction you can get in line loss yields worthwhile benefits, using an open wire feeder for example, as well as minimising feeder length. This is more and more important the worse the antenna impedance. Short verticals are a good example of antennae with extreme impedances, especially low radiation resistance that really benefit from a carefully designed ATU placed right at their feedpoint, and also care in making a highly conductive groundplane.
Up to the ATU, feeder losses depend on the feeder and the power you are transmitting, after the ATU, losses are increased further by the effective Q of the resonance of the antenna, atu system.

Hope this helps give a picture

David GM4ZNX

Date: 11 Mar 93 13:03:03 GMT
From: pipex!Q.icl.co.uk!dsbc!ozz!prs@uunet.uu.net
Subject: Games on TH78
To: info-hams@ucsd.edu

Anyone know how to get the games that are provided with the TH78 ?

Peter G0PUB

--... ...-- -.. . --. ----- .--. ..- -... -.-
Peter Swynford is available... tel:+44 344 424842 x 2625 / fax:+44 344 489280
or at prs@oasis.icl.co.uk AX25:G0PUB@GB7RDG.GBR.EU

Disclaimer: See Paragraph 2.4.a of section 1.a (article 7) (iii) of the
Town and Country Planning Act, 1967.

Date: Thu, 11 Mar 1993 08:27:05 GMT
From: usc!howland.reston.ans.net!europa.eng.gtefsd.com!emory!wa4mei!ke4zv!
gary@network.UCSD.EDU
Subject: Ham only dual-bander HT?
To: info-hams@ucsd.edu

In article <1993Mar9.195228.25420@sj.ate.slb.com> jones@sj.ate.slb.com (Clark
Jones) writes:
[in repsonse to this lament]
>: 3) With wide band receive (which is a bug, not a feature), there is increased
>:   intermod. You can hear a lot more, but you hear it badly. Why not
>:   simply buy a scanner if that is your heart's desire?
>
>Because that's one more piece of junk to lug around. I've got enough stuff
>to carry around as it is. Besides, the use of CTCSS encoding on the output
>of repeaters, which allows me to use "tone squelch" on my radio, cuts out
>most of the intermod problems at my end in my radio on the ham bands.
>(Unluckily, it doesn't do anything for the pagers and other stuff interfering
>with my reception of the NOAA broadcast, but that isn't worth while to carry
>a separate radio.) Also, all of the HT's I've seen at least appear to be
>more ruggedly constructed than _any_ scanner I've ever seen.

Outbound CTCSS is a help, but it's not a full solution. Intermod can
prevent the decoding of the CTCSS and/or it can still interfere with
the desired signal adding heterodyne like squalling and sometimes direct
mixes in your receiver with the desired signal, causing audibility of
undesired voices and paging tones directly on channel. Strong out of band
signals can also do direct desense on your receiver, preventing it from
copying the desired signal at all. This is a serious deficit of wideband HTs.
Radio Shack, of all people, did it right with their HT. It's narrow
frontend is nearly immune to these problems. Now if they only made
a dualbander with similar properties. The only radio that comes
close is the Icom 32AT. In the commercial two way field, both Motorola
and GE HTs are bullet proof. Not only do they use helical front end
filtering, but they are mechanically rugged as well. All they lack to
be ideal ham radios is to be tuneable across the band. If you only
need a few frequencies, they're ideal as is. My ideal radio would
be as simple to use as an IC2AT with the electrical and mechanical
ruggedness of a GE Mastr series HT. I don't want scanning or memories
or the ability to emulate a Gameboy. I just want a radio that works
under extreme conditions. A radio should work in high RF fields, and
it should easily survive a 6 foot drop on concrete. Anything less is

unacceptable.

Gary

--
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Lawrenceville, GA 30244 | |

Date: 11 Mar 93 14:13:59 GMT
From: news-mail-gateway@ucsd.edu
Subject: Ham Radio Outlet incident
To: info-hams@ucsd.edu

If HRO had a retail facility in NY (state) or NJ they would be
required by law to clearly display the price of *every* item on
display for sale and or have every item idividually marked. Retail
stores in our area (NJ) have been cited and told to clean up their
act or risk substantial fines. I wonder if California has similar
requirements ? Even if the items area scanned for the UPC code to
determine the price at the checkout, prices have to be clearly
displayed by law. Sounds like HRO is a less than honest and/or
law abiding operation.

Seth KC2WE

Date: Thu, 11 Mar 1993 11:15:06 GMT
From: usc!sdd.hp.com!apollo.hp.com!hpwin052!hpqmoea!dstock@network.UCSD.EDU
Subject: Ham Radio Outlet incident
To: info-hams@ucsd.edu

Fred's point about the "CALL for price" advertisers being a response
to 90 day publisher's lead times is believable, I guess those who do
publish prices have a little padding to cover fluctuations. I too find
it a turn-off, I've never phoned these types, and they're common enough
in British magazines too. Perhaps many like me have decided on a few
preferred and trusted companies to deal with, knowing that their
prices/service are trustworthy and reasonable.

100% mark-up by retailers is usual on amateur radio and general
consumer goods in this country, so advert reading in QST is particularly
interesting.

I visited HRO in Burlinghame 2 years ago, no prices on anything, and a group of regulars nattering at the counter. Just too busy to give me a price on an IC765 which I then bought elsewhere. It lost them a $2500 sale, AND gave it to someone else. The total specialisation as an appliance showroom with nothing unusual around was boring, the next time I get a business trip across the Atlantic, I probably won't bother trying to visit them.

David GM4ZNX

Date: Thu, 11 Mar 1993 08:53:54 GMT
From: usc!howland.reston.ans.net!europa.eng.gtefsd.com!emory!wa4mei!ke4zv!gary@network.UCSD.EDU
Subject: How do I ground the antenna?
To: info-hams@ucsd.edu

In article <14570688@hpnmdla.sr.hp.com> alanb@hpnmdla.sr.hp.com (Alan Bloom) writes:
>In rec.radio.amateur.misc, rossi@gvlf9-q.gvl.unisys.com (Pete Rossi) writes:
>>What is the best way to ground a VHF antenna that will be sitting on top
>>of a 40 foot wooden mast?
>>The most obvious way would probably be to simply run a single conductor
>>ground wire (#12 or #10 or whatever) down alongside of the pole to a ground
>>rod at the base...
>>... BUT ...
>>... wouldn't simply connecting the shield of the coax to the same ground rod
>>at the base accomplish about the same thing?
>>I would think that the braid of a good grade RG8 cable is probably at least
>>as good as #10 copper.
>
>Even if it isn't, grounding the coax shield at the base of the mast
>will protect the shack from lightning strikes. (Although it might not
>protect the antenna/coax/mast).

Grounding the coax shield does < half the job of protecting the shack. You're depending on the >2,000 volt flashover rating of the dielectric to ground the center conductor. Most radio equipment will die under these conditions. Use a proper suppressor.

Note too that since the shield on most flexible coax isn't 100% symetric, there will be inductive coupling to the center conductor, raising it's potential. During a direct strike, currents flowing on the grounding conductor can approach 20,000 amps. The coax shield will break down differentially offering all sorts of odd impedances to the current path. This invites many various alternative paths and can generate very very high voltages at the resonant length of the coax. It's better

to offer a solid alternative path to the lightning current. A number 8
wire run directly from the antenna to ground, and a few turn coil of
the coax at the top and bottom of the mast, will furnish a better
alternative path for the current and reduce the chance of damaging
currents entering the ham shack. Never make a wire that connects to
your equipment the *best* path for lightning currents to travel.

Gary

--
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Lawrenceville, GA 30244 | |

Date: 11 Mar 93 16:11:00 GMT
From: news-mail-gateway@ucsd.edu
Subject: Kenwood 732a mods?
To: info-hams@ucsd.edu

I am interested in modifying my Kenwood 732a to receive out of band
in the 460 Mhz area of the spectrum. Does anyone know of a mod to
enable this receiving coverage?

Tom N9CGD

Date: 11 Mar 93 08:19:40 GMT
From: olivea!charnel!psgrain!ee.und.ac.za!shrike.und.ac.za!pc-el109.ee.und.ac.za!
willia1@uunet.uu.net
Subject: Matching antennas to low cost receivers?
To: info-hams@ucsd.edu

I'm starting out in RF design at varsity, and as usual the theory is coming
thick and fast, but I'm still in the dark when it comes to practical
matters, LIKE:-

Would one need to _match_ an antenna to the front end of an RF preamp in a
receiver? My GUESS is that a nice well-defined antenna (like a 2m dipole
made from 300ohm flat line) is not really a problem. [Although RF
transformers at that frequency are said to be quite lossy->is that right?
What is the best way to do this really elegantly?]

However, when it comes to a device like an RF remote-control receiver where
size is a major factor (esp antenna size!) what does one do? Say for

instance one is using a short piece of wire, does one assume a high impedance antenna and "guestimate" a match? What are typical impedances for this kind of antenna?!

These sort of head-scratchers are coming up in a design of an RF remote control system (like switch wall plug x on...)

Just one other thing, is there any "best" frequency for doing any particular type of communication on? (This system is a low-power hopefully low-noise kind of thing [couple of mW])

Thanks for any help!

Kevin Williams

Date: Thu, 11 Mar 1993 14:36:32 GMT
From: usc!sdd.hp.com!hpscit.sc.hp.com!news.dtc.hp.com!col.hp.com!fc.hp.com!jayk@network.UCSD.EDU
Subject: N9NS/KH5K on the air
To: info-hams@ucsd.edu

N9NS/KH5K finally showed up this morning on 7020 qsx up 5. They were on 20 SSB last night (Colorado time) with one station just working back home and giving info. They were loud on both bands. Good luck.

73, Jay Kesterson K0GU jayk@fc.hp.com

Date: 11 Mar 93 15:48:18 GMT
From: usc!howland.reston.ans.net!spool.mu.edu!olivea!isc-br!loki!bruceo@network.UCSD.EDU
Subject: Preparing for General Class Exam
To: info-hams@ucsd.edu

I have the ARRL General Class study guide. I believe it is dated 1990, and states on the cover that it is good for General class exams through at least 1991.

Could someone please tell me if this study guide is current?

I am also looking for comments/recommendations on keys that might be a good choice for someone just getting into CW.

Thanks, DE N7RWO
--

Bruce Oscarson | bruceo@isc-br.ISC-BR.COM
ISC-Bunker Ramo | uunet!isc-br!bruceo
An Olivetti Company | ma-bell (509) 927-5437

Date: Thu, 11 Mar 1993 09:42:21 GMT
From: usc!howland.reston.ans.net!europa.eng.gtefsd.com!emory!wa4mei!ke4zv!gary@network.UCSD.EDU
Subject: Receiver Sensitivity figures
To: info-hams@ucsd.edu

In article <93069.125643U12566@uicvm.uic.edu> <U12566@uicvm.uic.edu> writes:
>
>I'm looking at specs for a NRD-535 receiver. Sensitivity is quoted in dBu,
>but I (being old fashioned!) am used to microvolt figures. How do I make the
>conversion?
>
>eg am sensitivity is rated at 6 dBu in 1.6-30 MHz range. (I am adaptable
>enough to translate cycles to Hertz)

db=20log(V1/V2)

A 6 db increase is a doubling of voltage so 6 dbuv is equivalent to
2 microvolts.

Gary
--

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Date: Thu, 11 Mar 1993 09:38:35 GMT
From: usc!howland.reston.ans.net!europa.eng.gtefsd.com!emory!wa4mei!ke4zv!gary@network.UCSD.EDU
Subject: source for spools of wire
To: info-hams@ucsd.edu

In article <1993Mar10.001803.8474@convex.com> tonyp@convex.com (honey bunny) writes:
>I need to get wire. Lots of wire. About 3,000' (holy rhombic, batman!)
>

>Does anyone know of a place that will sell small lots to the public?

3,000 feet is not a "small" lot. :-)

A large electrical supply house may have that much wire on hand, or
you can try your local REA. They are sometimes willing to sell wire,
insulators, support poles, and installation services at a considerable
discount.

>PHYSICS QUESTION:
>-----------------
>
>What is the best gauge to use - seeing as it will be spanning about
>600' non-stop (between tie points)?

This depends entirely on the amount of sag you can tolerate and the
amount of wind and ice loading you expect. In no event will the NEC
allow wires of less than 8 gauge for spans unsupported by messenger
wires that are over 50 feet.

The equation relating sag, cable weight, and span is:

S=(W*L^2)/(8*H)

Where S is sag in feet, L is length of span in feet, W is weight of
cable (plus expected ice and wind loads) in pounds, and H is the
tension in the cable in feet. For #8 copper wire, the weight per
foot is .05 pounds and maximum tension is 84 pounds. So for a 600 foot
span (no ice, no wind), the sag will be 26.79 feet. For less sag, you
have to use heavier gauge cable or change to copperclad steel cable.
Copperweld number 8 weighs .045 pounds per foot and has a maximum tension
of 195 pounds. The sag for #8 copperweld would be 10.5 feet.

For cost and sag reasons, I'd recommend #4 aluminum stranded wire
with a steel messenger cable. This should be a stock item of your
local REA.

>Is stranded or solid better?

Stranded cable survives wind flex fatigue much better than solid.

Gary
--
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Date: Thu, 11 Mar 1993 13:37:34 GMT
From: pacbell.com!att-out!cbfsb!cbnewsb.cb.att.com!feg@network.UCSD.EDU
Subject: source for spools of wire
To: info-hams@ucsd.edu

In article <1993Mar11.093835.23272@ke4zv.uucp> gary@ke4zv.UUCP (Gary Coffman) writes:

>span (no ice, no wind), the sag will be 26.79 feet. For less sag, you
>have to use heavier gauge cable or change to copperclad steel cable.
>Copperweld number 8 weighs .045 pounds per foot and has a maximum tension
>of 195 pounds. The sag for #8 copperweld would be 10.5 feet.
>
>For cost and sag reasons, I'd recommend #4 aluminum stranded wire
>with a steel messenger cable. This should be a stock item of your
>local REA.
>

What is the presence of that steel messenger cable going to do
to his antenna performance? (I assume that steel wire is not
touching the aluminum wire, as that would produce quick failure
due to electrolysis).

Wouldn't he be better off with Copperweld?

Of course, he'd also be advised to have additional supports
between that 600 foot span (;-)

Forrest Gehrke feg@dodger.att.com k2bt

Date: 10 Mar 93 23:05:12 GMT
From: gossip.pyramid.com!pyramid!infmx!seashore!randall@uunet.uu.net
Subject: Speaking your mind
To: info-hams@ucsd.edu

marcbg@feenix.metronet.com (Marc Grant) writes:

>Margin on ham gear generally (except for accessories) isn't fantastic, but
>the gear is not cheap these days and it's no secret that there's good
>money in it for those who provide good customer service.

This is true for electronics in general, especially computers.
At Radio Shack, margins on accessories was fantastic, and smart

store managers did their best to keep parts in stock.

--

=-=
Randall Rhea   Informix Software, Inc.
Project Manager, MIS Sales/Marketing Systems   uunet!pyramid!infmx!randall

----

Date: Thu, 11 Mar 1993 09:40:00 GMT
From: usc!howland.reston.ans.net!europa.eng.gtefsd.com!emory!wa4mei!ke4zv!
gary@network.UCSD.EDU
Subject: UHF band Pass Filter
To: info-hams@ucsd.edu

In article <1993Mar10.102155.1@vaxc.stevens-tech.edu> u95_dgold@vaxc.stevens-tech.edu writes:
>Does anyone know how I could easily make a narrow band pass filter for
>UHF 440-450 MHz? Caps? Coils? Your help would be greatly appreciated.

Use a cavity, either of the ordinary re-entrant type or of the helical
type.

Gary

--
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Date: 11 Mar 93 14:46:27 GMT
From: news-mail-gateway@ucsd.edu
Subject: When is the Dayton Hamvention?
To: info-hams@ucsd.edu

>If you don't already have hotel reservations, or some other method of
>lodging, don't bother coming (unless you don't mind wandering the
>streets). Everything is booked solid.

well, maybe everything in Dayton. probably space in Columbus, Indianapolis,
or Cincinnati.

Orlando HamCation this weekend, but the close hotels are booked..you might

have to stay over by Disney or at worst the Kennedy Space Center...8)...

bill wb9ivr

Date: 11 Mar 93 15:28:25 GMT
From: news-mail-gateway@ucsd.edu
Subject: Yaesu FT-980
To: info-hams@ucsd.edu

Greetings...

I would like to tap the vast resourse of the net once again. What does everyone know about the Yaesu (is it really "a before e except before z"?) FT-980 HF rig?

Important points:
1. It is supposed to have the richest implementation of the CAT system, and I'm very interested in comments on this.

2. Where are the weak spots in this rig; what should I be looking for / checking on?

3. This particular rig looks beautiful, what is the approximate value (what price makes a good deal)?

Thanks for the help, and 73,
_____________________________-:!:-_____________________________
Alan V. Cook   Internet: AVCOOK@ananov.remnet.ab.com
Rockwell International   Ham Packet: N7CEU @ WF6O
(714) 762-0843   DoD: #0701
              Alternate Internet: Cookav@catipult.anatcp.rockwell.com

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Date: Thu, 11 Mar 1993 13:43:57 GMT
From: usc!sdd.hp.com!hpscit.sc.hp.com!hpuerca.atl.hp.com!edh@network.UCSD.EDU
To: info-hams@ucsd.edu

References <C3KtDs.3Ct@news.ysu.edu>, <47540022@hpcuhe.cup.hp.com>, <1nl6uhINN51o@topaz.bds.com>
Subject : Re: Help!, mobile noise

In <1nl6uhINN51o@topaz.bds.com> ron@topaz.bds.com (Ron Natalie) writes:

>What kinds of food go well with alternator wine?

>-Ron

 Anything fried in motor oil, especially mushroom pins.
 Pavement baked armadillo is also good, but it takes
 three people to eat one: one diner, and two people
 to watch out for traffic.

 Cheers!

End of Info-Hams Digest V93 #304
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